

## Abstract

5 A solid-cage ambient-pressure PEM fuel cell stack having  
internal manifolds for the fuel gas and configured for accepting  
oxidant gas and cooling fluid via external manifolds/plena is  
disclosed. The fuel cell stack is contained in a solid cage  
comprised of a bottom end plate, a top end plate and four L-shaped  
struts. Each strut is attached at each end to a corner of the end  
plates so as to form a rigid rectangular parallelepiped cage, within  
10 which the fuel cell stack is contained. A pressure plate is  
disposed between the fuel cell stack and the top end plate. The  
pressure plate may be displace downwards, typically by way of an  
array of jack screws, so as to compress the fuel cell stack between  
the pressure plate and the bottom end plate. The vertical corners  
15 of the fuel cell stack engage the inside corners of the struts to  
further support the fuel cell stack.